

NOTES ON AMERICAN TINGIDÆ WITH DESCRIPTIONS OF NEW SPECIES.*

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Since the publication of recent papers on Tingidæ we have examined a number of collections and specimens sent in for determination by Professors Cooley, Lovett, Ewing, Swenk, Doane, Ferris, and Melander. This material with our private collections enable us to present the following notes.

Atheas insignis Heidemann.

Two specimens, one taken at Vienna, Virginia, August 8, 1913, by Mr. Barber and the other at Bladensburg, Maryland, July 21, 1890, by Heidemann. The Blandensburg specimen bears the label, "*Leptostyla exquisita* Uhler MS," as identified by Mr. Heidemann.

Atheas mimeticus Heidemann.

Four specimens; one specimen taken at Fort Collins, Colorado, August 8, 1898, and the other three at Albuquerque, New Mexico, August 30, 1888, by Wickham. The Colorado specimen is a little darker than our New Mexican forms and the color indicated in the original description and drawing, but agrees in other characters.

Atheas annulatus spec. nov.

This species is closely allied to *A. fuscipes* Champion, from Mexico and Central America, but readily separated from it by the annulate first segment of the antennæ, the much longer discoidal area, the brown transverse nervures along the inner row of cells in the costal area, and the testaceous legs.

Pronotum feebly convex, closely punctate, distinctly tricarinate, converging anteriorly; membraneous margins narrow, slightly concave, with a single row of small, round or oval areolae and three extra cells along the inner margin at the widest part just in front of the middle. Head rugulose, a little broader than long, the antenniferous tubercles stout, pointed and slightly divergent. Antennæ slender, slightly longer than from the apex of head to tip of triangular process of the pronotum; basal segment constricted beyond the middle, and forming a fairly distinct annulus, a little more swollen, and nearly one and a half times as long as the second; third segment longest, slenderest; fourth segment thickened, twice as long as the second and a little more than one-half the length of the third. Rostrum reaching between the intermediate coxæ. Mesosternal laminae diverging posteriorly. Elytra reaching considerably beyond the abdomen, rounded at the tip, widest before

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the middle; costal area biseriate, the outer row of areolæ smaller than the inner one; subcostal area biseriate; discoidal area reaching beyond the middle of the elytra (farther than in *fuscipes*), with four rows of areolæ at its widest part; sutural area broad, the areolæ along the inner margin and distal end very large. Wings longer than the abdomen. Length, 2.45 mm.; width, .9 mm.

Color: Head and body beneath black. Legs testaceous, the tips of tarsi infuscated. Antennæ black, except distal two-thirds of the third segment and narrow basal portion of the fourth testaceous. Margin of bucculæ and rostral laminæ whitish. Pronotum black, a few spots on the carinæ, apex of posterior process, and lateral margins whitish. Elytra with the outer margin and areolæ whitish, the areolæ nearly opaque; transverse nervures along inner row of costal area, costate nervures that bound areas, and the inner and distal nervures of sutural area brownish.

Described from one macropterous male, labelled "Marion County, Arkansas, June 27, 1897."

Atheas nigricornis Champion.

We have one example of this species that was taken in the Huachuca Mountains, Arizona, July 26, 1905, by Mr. H. G. Barber. This seems to be the first record for the species in the United States.

Atheas sordidus spec. nov.

Head a little broader than long, the antenniferous tubercles stout and pointed, but more slender and longer than in *annulatus*. Antennæ reaching a little beyond the apex of posterior process of the pronotum; first segment a little thicker and one and a half times as long as the second; third segment slenderest, less than twice the length of the fourth; fourth segment thickened towards the apex, a little longer than the first. Pronotum closely punctate, tricarinate, the carinæ more strongly raised than in *A. annulatus*; lateral margins narrow, converging forwards, with the outer margin nearly straight, with two rows of cells at the anterior end and only a single series back of the middle, the areolæ small and round or oval. Rostrum reaching between the first pair of coxæ. Elytra reaching a little beyond the apex of the abdomen, the outer margin rounded, with the nervures that bound the areas distinctly raised; costal area narrow, with one complete series of areolæ and an extra row near the base and apex; subcostal area with two rows of areolæ; discoidal area reaching considerably beyond the middle of the elytra, with five rows of areolæ at the widest part, the inner boundary distinctly wavy. Wings not visible. Length, 2.15 mm.; width, .85 mm.

Color: Head and body beneath blackish. Antennæ black, except the distal third or half of third segment, which is yellowish. Legs testaceous, the tarsi infuscated. Pronotum black, the carinæ, anterior margin, apex of posterior process, and lateral margins whitish. Elytra sordid yellowish, the lateral margins whitish, and the areolæ whitish, opaque. Margins of bucculæ and rostral laminæ whitish.

Three brachypterous specimens from Iowa; two specimens collected at Ames by Prof. Ball and the other at Little Rock, July 2, 1897, by the senior author. This Tingid approaches *A. nigricornis* Champion, which has the antennæ entirely black, but it also differs from that species in the costal area of the elytra.

***Corythucha ciliata* Say.**

This species is well known as the sycamore or buttonwood Tingid and is common throughout the eastern and central portions of the United States. West of the Mississippi River we have specimens from Iowa, Oklahoma, Texas and California. When heavy infestations of the insects occur the leaves of the sycamore tree are often very much whitened and wilted. It is not uncommon to find buttonwood trees considerably damaged by these insects in Ohio. During the winter the adults may be collected on the trees beneath the loose bark. The mature form is whitish and it usually has a brown spot on the posterior portion of the tumid elevation of the elytra. Teneral specimens are more or less opaque and of a milky white color. The adult is parasitised by a red mite.

***Corythucha arcuata* Say.**

The oak lace-bug is also a well known and widely distributed species. We have numerous records for the central and eastern states and west to Iowa. Prof. Sanders and Mr. DeLong observed during the summer of 1916 that the leaves of *Quercus macrocarpa*, on the shore of Lake Wapasset, in Wisconsin, were discolored and almost entirely destroyed. This damage was also noted by them in numerous other places in the state, and the insect is of considerable economic importance in Wisconsin. The oak Tingid is quite variable in color, especially the color bands on the elytra. In some specimens the hood, lateral pronotal margins, and distal portions of the elytra are almost entirely whitish and the areolae hyaline. In some cases the brown band near the base of the elytra is also more or less evanescent. The life cycle of this species has been carefully studied by Dr. Morrill (*Psyche*, Vol. X, page 127-132).

***Corythucha juglandis* Fitch.**

This is a very common species on walnut, butternut, and linden. The color of this species is also quite variable. Our collections include specimens from Iowa, Wisconsin, Ohio, New York, Maine, Georgia and Tennessee.

Corythucha salicis spec. nov.

Hood moderately elevated, abruptly constricted about the middle, tapering in front and somewhat globose behind, widely reticulated, the reticulations becoming smaller at the sides in front. Pronotum with the membraneous margins broad, reniform, bullate about the middle, and armed with a few spines on the anterior margins; median carina, low, uniseriate (in some specimens with one or two cells divided near the middle); lateral carinae raised anteriorly, with a few distinct cells. Antennae clothed with a few long hairs, the first segment slightly more swollen and twice the length of the second. Rostrum reaching between the intermediate coxae. Elytra broad, the outer margin slightly convex; costal area broad, with three rows of areolae, the reticulation very large between the transverse fasciae. Claspers in the male strongly curved. Length, 3.5 mm.; width, 1.9 mm.

Color: General color whitish, marked with brown. Antennae testaceous. Legs yellowish-brown, the tip of tibiae and tarsi infuscated. Pronotum embrowned; lateral margins and hood with the nervures whitish and marked with brown, the areolae hyaline and narrowly margined with whitish opaque; posterior process and carinae whitish. Elytra whitish, with a transverse band near the base, a more or less oblique band near the apex, a few spots near the inner margin and posterior portion of tumid elevation embrowned. Body beneath black, the genital segment more or less embrowned.

Middlesex Falls, Massachusetts, Wisconsin (DeLong) and Bozeman, Montana, June 4, 1912 (Cooley). This species infests willow and currant. Although very distinct it is probably most closely allied to *C. arcuata* Say. We have seen this species labeled "*Corythucha fuscigera* Stal," in eastern collections, but it is very distinct from our Mexican specimens of this species.

Corythucha marmorata Uhler.

The color of this species is somewhat variable and in some specimens the marmorate markings on the elytra are more or less evanescent. We have specimens from Nebraska, Indiana, Michigan, Ohio, Pennsylvania, Maine, Massachusetts, New York, Georgia, Tennessee, Louisiana, Iowa and Colorado. This species has been reported as causing damage in green-houses.

Corythucha morrilli spec. nov.

This species was given the manuscript name of *C. morrilli*, by Mr. Heidemann in honor of the excellent work that Dr. Morrill has done in this genus.

Hood highly elevated, rather narrow, not very widely reticulate, moderately constricted back of the middle; anterior portion long, the

sides depressed, with two rows of areolæ on the dorsal surface; posterior portion with the sides narrowed dorsally, the dorsal surface only slightly broader than the dorsal surface of the anterior portion. Antennæ clothed with a few long hairs, the first segment twice the length of the second. Pronotum punctate; median carina highly elevated, with two rows of cells at the highest portion; lateral carinæ rather long, raised anteriorly, flaring outwardly, with six or seven areolæ; lateral margins not very broad, reniform, the outer margins armed with rather short, closely set spines, slightly bullate near the middle, the posterior margin slightly turned up. Rostral sulcus broad, the sides moderately raised; rostrum reaching to the intermediate coxæ. Elytra narrow, long, reaching considerably beyond the abdomen, the outer margin slightly concave and armed with rather short spines, except distal portion; costal area narrow, biseriate. Length, 2.85 mm.; width, 1.82 mm.

Color: General color whitish, usually marked with brown. Antennæ and legs light testaceous, the tips of tarsi and apical segment of antennæ darker. Pronotum embrowned; lateral margins and median carina each with a fuscous spot near the middle; hood distinctly marked with fuscous. Elytra whitish, usually with four transverse fascia, a spot on the tumid elevation, and a few spots on sutural area fuscous. Body beneath black, the genital segment partially embrowned. Margins of bucculæ, rostrum, rostral laminæ and portions of thoracic pleura embrowned.

This species has been determined in many collections as *C. decens* Stal, but it is very distinct from Champion's figure of the species and Stal's original description. In some specimens the fuscous or brown markings are almost entirely wanting. It is a very common species in the southwestern portion of the United States. We have numerous specimens from Colorado and Arizona.

***Corythucha coryli* spec. nov.**

Hood large, highly elevated, strongly deflected in front, abruptly constricted near the middle, globose behind and narrowed in front, widely reticulated, the reticulations becoming closer at the sides in front. Antennæ clothed with a few long hairs, the first segment a little more than twice the length of the second. Pronotum rather evenly punctate, the lateral margins slightly bullate near the middle, reniform, evenly reticulate, median carina strongly raised, the outer carinæ slightly raised anteriorly. Rostral laminæ rather large, reticulate; rostrum reaching near the end of the rostral sulcus. Elytra reaching considerably beyond the abdomen, the outer margins sinuate, strongly concave, broadly rounded at the tip; costal area widely reticulate, with three rows of areolæ (a few additional cells near the base). Wings extending a little beyond the abdomen. Outer margins of elytra and lateral margins of pronotum armed with rather long, closely-set, strong, spines. Length, 2.8 mm.; width, 1.52 mm.

Color: Body beneath black, the genital segment partially embrowned. Claspers in the male brown. Hood infuscated, except the sides in front whitish. Pronotum embrowned; explanate margins with areolæ hyaline, the nervures whitish. Elytra whitish, with a transverse band near the base, another near the apex, and more or less of a rather broad margin along inner border infuscate. Male claspers brown. Antennæ and legs light testaceous. Spines whitish, with the tips infuscate.

A common Tingid that infests hazlenut, *Corylus americana* Walt. We have specimens that were taken by Mr. W. L. McAtee "near Plummerville Island, Maryland, August 20, 1914."

Corythucha floridana Heidemann.

Our specimens are from Kissimmee, Florida, where they were reported by Dr. Berger as doing a considerable amount of damage to the oak trees. Heidemann reports the species as being found on *Cephalanthus*.

Corythucha gossypi Fabricius.

Our Florida specimens were taken on the leaves of *Ichthyonethia piscipula*. We also have a few specimens from Grenada, British West Indies.

Corythucha pergandei Heidemann.

This is a very common species that infests Alder. We have specimens from Wisconsin, Illinois, Ohio, New Jersey, Washington, D. C., Maryland and Tennessee.

Corythucha crataegi Morrill (Osborn and Drake).

The hawthorn Tingid is common throughout the greater portion of the United States. We have specimens from South Dakota, Nebraska, Iowa, Wisconsin, Ohio, Pennsylvania, Massachusetts, Maryland, Virginia, South Carolina, Georgia, Texas and Colorado. Some workers have questioned the priority of the name, claiming that the species is identical with *C. cydonia* Fitch. According to the International Code the original description of *cydonia* is invalid, as it was not published in a scientific journal. We would be glad to recognize *cydonia* if the identity of the two forms can be fully established.

Corythucha pallida Osborn and Drake.

This species was described from a series of specimens that were taken on linden, *Tilia americana*, by Kellicott and Hine. During the past summer we have received numerous specimens that were taken on mulberry, *Morus rubra*, in Ohio, Maryland,

Tennessee, Virginia and Arizona. This species may be found in collections under the names, "*Corythucha ajusta* Uhler MS" and "*Corythucha mori* Heid. MS."

Corythucha obliqua Osborn and Drake.

The authors described this species from a single specimen that was taken in California by Mr. Dury. Our collections now include specimens from Oregon and Idaho, besides the type locality.

Corythucha immaculata Osborn and Drake.

The food plant of this species has not been recorded. We have specimens from Oregon, California and Colorado.

Corythucha distincta Osborn and Drake (Fig. 1, variety).

This is a very common lace-bug throughout the western part of the United States. Our collections include specimens from Washington, Montana, Wyoming, Utah and Colorado. Mr. McAtee states that he has specimens from California. In western collections we have seen this species labeled "*Corythucha contaminata* Uhler MS." Our long series of specimens indicate the type to be the typical form of the species. The Utah specimens were taken on *Carduus lanceolatus* by Larson.

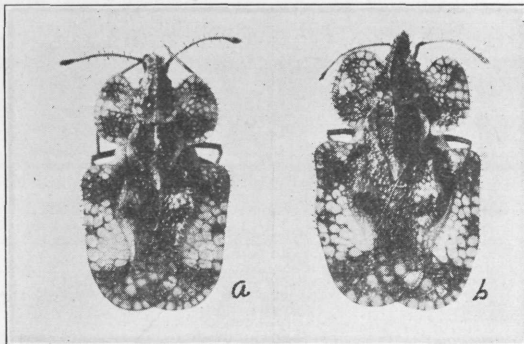


Fig. 1. *Corythucha distincta spinata*, n. var.; a, ♂; b, ♀.
(Photo by Carl J. Drake).

Corythucha distincta spinata var. nov. (Fig. 1, a and b).

This new variety is armed on the outer margins of the elytra, except distal third, and lateral margins of the pronotum with short spines. The color is a little darker than the typical form. All specimens of this variety were collected at Florence, Montana, June 1, 1912, by Mr. Parker. One specimen bears the food plant label "thistle."

***Corythucha hoodiana* spec. nov.**

Hood moderately elevated, very broad, very abruptly constricted at the middle, widely reticulated, the areolæ becoming smaller at the sides in front; anterior portion narrowed anteriorly, with the sides depressed; posterior portion rounded, but not globose. Antennæ slender, clothed with a few long hairs, the basal segment nearly three times the length of the second. Pronotum not very closely punctate, with the lateral margins broad, reniform, bullate just back of the middle, with the anterior and posterior margins slightly turned up, the spines on the outer margin almost entirely obsolete; median carina highly elevated, the areolæ long-rectangular, except a few divided cells that form a double row of nearly square cells; lateral carinæ raised anteriorly, with three or four areolæ. Mesosternal laminæ diverging posteriorly, the metasternal ones cordate; rostrum reaching the meso- metasternal suture. Elytra broad, reaching considerably beyond the abdomen, with large, nearly round, tumid elevations, with the outer margins sinuate, slightly emarginate, and the lateral spines almost entirely obsolete; costal area broad, unevenly reticulate, with three rather irregular rows of areolæ and a few extra cells near the base and hyaline portion; sutural area broad, unevenly reticulate. Abdomen very broad. Length, 2.5 mm.; width, 2.6 mm.

Color: Pronotum, a spot on each lateral margin, a rather broad band near the base of the elytra, another near the apex (except two or three cells near inner margin hyaline), a spot on the posterior portion of tumid elevation and a few small spots near inner margin brown. Areolæ mostly hyaline, the nervures whitish. Antennæ and legs testaceous. Body beneath black.

Described from a ♀ specimen, taken on Mt. Hood, Oregon.

***Corythucha eriodictyonæ* spec. nov.**

Hood low, narrow, armed with a few long spines on the sides, with the median nervure sinuate, rather abruptly constricted back of the middle, the anterior portion long and narrow and the posterior short. Antennæ clothed with a few long hairs; basal segment constricted beyond the middle, more swollen and a little more than twice the length of the second; fourth segment swollen towards the tip. Pronotum punctate, tricarinate; median carina low, undulate, uniseriate, very low near the middle and where it conjoins with the hood; lateral carinæ widely separated from the hood, raised anteriorly, with 4-5 distinct areolæ; membranous margins widely reticulate, long, rather broad, armed with very long spines on the outer margins. Rostral sulcus broad, the rostrum extending between the posterior coxæ. Elytra long, broad, the tumid elevations small, armed with very long spines on the outer margins; costal area broad, mostly triseriate, the areolæ large and not of a uniform size; subcostal areolæ very small. Wings visible. Length, 3.2 mm.; width, 1.8 mm.

Color: Nervures of hood, pronotal margins, and elytra yellowish, slightly marked with brown and fuscous; areolæ hyaline. Pronotum

brownish, a few spots fuscous. Antennæ testaceous, the distal portion of the fourth segment fuscous. Legs testaceous, the tips of tarsi darker. All spines testaceous, with tips black. Body beneath black.

Described from a good series of specimens, taken on "*Eriodictyon californicum*," both adults and nymphs at "San Francisco Cr., San Mateo Co., Cal.," by G. F. Ferris. This insect has long spines like *hispida* Uhler, but it can readily be separated from it by the smaller hood, smaller size, and the slightly shorter spines.

Corythucha fuscigera Stal.

Our specimens of this species are from Mexico. It is probably found in the southern part of the United States, but the specimens that we have examined labeled *fuscigera* have proved to be of five or six different species. The figure in the Biologia Centrali-Americana is an excellent drawing of the species.

Corythucha pruni Osborn and Drake.

This species which was described from a series of specimens from Washington, D. C., has not been noted in other collections. The hood in this species is much smaller than in either of the other two species that infests wild cherry.

Corythucha padi Drake.

This Tingid infests choke cherry, *Prunus demissa*, in the western states. We have specimens from Montana, Oregon, Washington and Chilliwack, British Columbia. The three cherry Tingids, *C. pruni*, *C. padi*, and *C. associata*, are very distinct from each other, the size and shape of the hood being the outstanding difference. In *pruni* the hood is small and not highly elevated; in *associata* the hood is highly elevated, very large, very abruptly constricted near the middle, and globose behind; in *padi* the hood is between the other two in size and nearly semiglobose behind. This is a good illustration of the number of Tingids that may feed on allied food plants, and, although it is very desirable to know the plant or plants that a species infests, it is not safe to assume that one has the species known to occur on a given plant simply because it has been found feeding or breeding on these plants. *Associata* is more closely allied to *aesculi* than to either of the two cherry Tingids.

Corythucha aesculi Osborn and Drake.

A very common species that infests buckeye, *Aesculus glabra*, throughout Ohio. We also have specimens from Illinois and Kentucky. The winter is spent in the adult state in among the leaves and grass on the ground beneath the tree.

Corythucha associata Osborn and Drake.

A common species that infests wild cherry, *Prunus serotina*, east of the Mississippi River. Our collections include specimens from Tennessee, Georgia, Long Island and Washington, D. C. During the summer of 1916 Mr. L. A. Stearns found these insects in immense numbers on wild cherry near Clarksville, Tennessee.

Corythucha bulbosa Osborn and Drake.

Although we have no positive data, this species seems to be known in some collections as *Corythucha carbonata*, a manuscript name given to the species by Uhler and used by Heidemann. It feeds on the American bladder nut, *Staphylea trifolia*, in immense numbers. This is the largest *Corythucha* known to us and very distinct from any other described species.

Corythaica constricta spec. nov.

Hood elongate, a little more arched and narrowed anteriorly than in *C. carinata* Uhler. Pronotum closely punctate, tricarinate, the carinae arranged as follows: the lateral carinae raised anteriorly, uniseriate, and extending from the base of posterior process to the outer posterior margin of the hood, the median carina more strongly raised anteriorly, with one complete row of areolae and three or four extra cells at the highest part near the anterior end forming a double series, reaching from the apex of triangular process and uniting with the median raised nervure of the hood. Pronotal margins biseriate, strongly reflexed, the outer margin following the contour of pronotum. Bucculae large, with three to four rows of cells. Rostral groove closed at the apex, the side reticulate; rostrum reaching between the intermediate coxae. Antennae long, slender; first segment a little longer and more swollen than the second; third segment slender, nude, nearly three times the length of the fourth; fourth segment swollen towards the apex, clothed with a few long bristly hairs. Elytra reaching considerably beyond the abdomen, broader and more strongly constricted just back of the middle than in *C. carinata*, the tumid elevation moderately large; costal area uniseriate, with most of the areolae very large; subcostal area mostly triseriate; discoidal area not quite reaching the middle of the elytra, with four rows of cells at the widest part; sutural area broad, widely reticulate, with five or six cells at the widest part. Length, 2.62 mm.; width, 1 mm.

Color: General color grayish, with fuscous markings. Body beneath brownish, the thorax darker brown. Legs brownish, the tips of tarsi infuscated. Antennæ brownish. Pronotum brownish. Elytra grayish-brown, with a transverse costal band in front of constriction, another near apex, and a few apical spots fuscous.

Described from a specimen from Colorado, but without a definite locality and date, probably Fort Collins, 1898.

Genus **Alveotingis** Osborn and Drake.

In this genus the subcostal, discoidal, and sutural areas are either partially defined, poorly defined, or entirely undifferentiated. The third antennal segment is more or less densely clothed with decumbent hairs and thickened towards the apex. In the macropterous specimens the elytra are broadly rounded at the apex, widely overlapping, and reaching considerably beyond the abdomen; in the brachypterous forms the inner margins of the elytra are nearly straight, slightly overlapping to the apex, and reaching a little beyond the tip of the abdomen. The bucculæ are contiguous anteriorly.

The photographs of the species of *Alveotingis* were made from the type specimens and are all of the same magnification. The known species of the genus may be separated by the following key:

1. Antennæ short and stout, not reaching the apex of the posterior process of the pronotum. . . . **A. brevicornis** n. sp.
Antennæ longer, reaching slightly beyond the apex of the posterior process of the pronotum. 2.
2. Third antennal segment very long; strongly swollen; median and lateral pronotal carinæ about equally elevated, reticulate; subcostal, discoidal, and sutural areas only partially or poorly defined. . **A. grossocerata** Osb. & Drk.
Third antennal segment more slender and shorter; pronotum with the lateral carinæ not as highly elevated as the median one, the areolate indistinct in the lateral carinæ; subcostal, discoidal, and sutural areas without the slightest trace of a boundary. **A. minor** n. sp.

Alveotingis minor spec. nov.

Head a little broader than long, with the median and two posterior spines depressed and the two anterior ones strongly curved and converging. Antennæ rather long, moderately slender; basal segment one and a half times the length of the second; second segment short, swollen

towards the tip; third segment slightly curved, slightly enlarged towards the apex, moderately clothed with rather long decumbent hairs; apical segment subconical, beset with long straight hairs and dense pile, at its widest part about three-fourths as broad as the apex of the third. Pronotum widely pitted, tricarinate, the carinae not as strongly raised as in *brevicornis* or *grossocerata*, the lateral carinae without distinct areolae; lateral margins reflected back against the sides of the pronotum, with a single series of areolae. Sides of thorax widely pitted. Elytra strongly convex, reaching a little beyond the abdomen; costal area with a single row of areolae; discoidal, sutural, and subcostal areas without a trace of a boundary. Length, 2.51 mm.; width, 1.16 mm.

Color: General color dark grayish-brown, the areolae whitish. Rostral laminae whitish. This species like the other two known species in the genus has a very shining appearance, due to the polished nervures.

Described from a macropterous male, taken at Ames, Iowa, June 14, 1897, by the senior author. It is closely related to *A. grossocerata*, but readily differentiated from it by the characters given in the key.

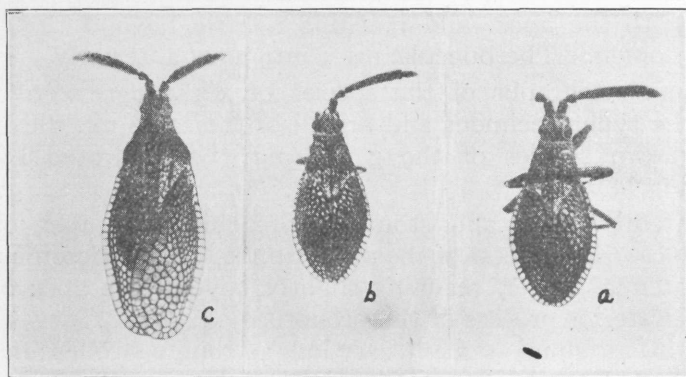


Fig. 2. *a*, *Alveotingis grossocerata* Osb. & Drk.; *b*, *A. minor* n. sp.; *c*, *A. brevicornis* n. sp. (Photo by Carl J. Drake).

***Alveotingis grossocerata* Osborn and Drake.**

This species, described in Ohio Biol. Survey Bulletin, No. 8, p. 245, has been seen so far only from Maine and New Hampshire. The figure shows the third antennal segment slightly too thick in the middle portion and the basal process is large and formed as in related genera. This difference may be noted by a comparison of the figure with the photograph of the type presented herewith.

***Alveotingis brevicornis* spec. nov.**

Antennae short, stout, not quite reaching the apex of the posterior process of the pronotum (in the other two species the antennae extends

a little beyond the apex); first segment nearly one and one-half times the length of the second; third segment strongly swollen towards the apex, densely clothed with rather long decumbent hairs, about twice the length of the first and second conjoined; fourth segment clothed with mostly straight hairs, subconical, a little shorter than the first, about two-thirds as thick as the apex of the third. The right antenna is abnormal; second segment clothed with hairs like the third, the second and third segments taken together not longer than the third segment of the left antenna. Elytra strongly convex; costal area uniseriate, the areolæ large; sutural, discoidal, and subcostal areas poorly defined. Pronotum tricarinate, the carinæ about as highly elevated as in *grossocerata*, the areolæ small. Other characters about the same as in *minor* and *grossocerata*. Length, 3.45 mm.; width, 1.4 mm.

Color: General color dark grayish-brown, shining, the areolæ whitish. Rostral laminæ whitish.

Described from a macropterous female, taken by the senior author at Little Rock, Iowa, July 2, 1897. As the figure indicates, the antennae are very distinct from those of the two known congeners.